

Patent Claims

1. Method for adjusting a fusing device (100) of a digital printing machine,
characterized in that microwave signals of a specific frequency or
5 frequency range are directed at a printing material (5), that a change
between the microwave signals reflected by the printing material (5) and
the emitted microwave signals is detected, and that the fusing device
(100) is adjusted based on the change of said microwave signals.
- 10 2. Method as in Claim 1, characterized in that a level change and/or a
phase change of the emitted microwave signals compared with the
reflected microwave signals is detected.
- 15 3. Method as in one of the previous claims, characterized in that the
microwave signals reflected by the printing material (5) are used to
determine the humidity of the printing material (5).
- 20 4. Method as in one of the previous claims, characterized in that an
applicator (8) of the measuring device (20) is pre-heated for feed-through
of the printing material (5).
- 25 5. Method as in one of the previous claims, characterized in that the
microwave signals reflected by the printing material (5) are used to
determine the type of printing material (5), specifically its mass in weight
per unit area (Grams per Square Meter = GSM).
- 30 6. Method as in one of the previous claims, characterized in that the toner
is fused to the printing material (5) in the fusing device (100), that a sensor
(15) measures the temperature of the printing material (5), and that the
fusing result based on the sensor's measurement is evaluated.
7. Measuring device (20) for a printing machine, preferably for carrying out
the method as in one of the previous claims, characterized in that the

measuring device (20) is configured so as to detect a change between a microwave signal reflected by a printing material (5) and a microwave signal directed at the printing material (5).

- 5 8. Measuring device (20) as in Claim 7, **characterized in that** the interior space of an applicator (8) of the measuring device (20) is at least partially provided with a dielectric material.
- 10 9. Measuring device (20) as in Claims 7 through 8, **characterized in that** the applicator (8) of the measuring device (20) consists of aluminum, specifically of a standardized structured aluminum.
- 15 10. Measuring device (20) as in Claims 7 through 9, **characterized in that** the applicator (8) of the measuring device (20) comprises two parallel conductive plates for passing the printing material (5) between them.

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